



The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

September 2006

September Meeting

The next regular meeting of the Carbon Amateur Radio Club will be on Thursday, September 21, at 7:30 p.m. at the Emergency Operations Center in Nesquehoning. Bob, WB3W, is scheduled to give a demonstration of Winlink. Don't miss it!

Don't forget to meet the gang for supper at 6:00 at Izio's, at the bottom of the hill in Nesquehoning!

See you there!



Carbon Amateur Radio Club Elects Officers for 2006-2007

The Carbon Amateur Radio Club elected officers for the 2006-2007 year. The same cast of rogues was re-elected for another year! So, as usual, your CARC officers are:

- President:** Anthony "Goody" Good, K3NG
- Vice President:** Rob Roomberg, KB3BYT
- Secretary:** Brian Eckert, KB3KLJ
- Treasurer:** John Schreibmaier, W3MF
- Directors:** Eric Bott, N3TVV, Bill Kelley, KA3UKL, Bob Wiseman, WB3W

In the immortal words of the late, great Johnny Cash, "I hear that train a-comin'..."



Carbon Amateur Radio Club Regular Meeting Minutes August 17, 2006

The meeting was called to order 19:35 local time by Goody, K3NG. In attendance were: Doug KB3LFD, Eric N3TVV, Todd KB3IKX, Lamar N3AT, Brian KB3KLJ, Bruce KB3DZN, Goody K3NG, Anna May KB3GPM, Bud KB3FSU, Larry N3CR, Don N3HYB, Rob KB3BYT, Bob K3PH, Kent WA3IEM, Marty N2HCS, and Josh Eckert (16 in all).

The club welcomes new member Martin Foley, N2HCS.

The treasurer's report was read by Goody, K3NG as follows:

Treasurer's Report

Previous Balance	\$1,255.70
Receipts (dues)	\$20.00
Sub-total	\$1,275.70
Disbursements (newsletter)	-\$4.68
New Balance	\$1271.02

A motion was made to accept the report as read; seconded and carried.

Goody, K3NG read the July meeting minutes. A motion was made to accept the minutes; seconded and carried.

Old Business

VE Certification

Goody, K3NG summarized our VE certification activities since the last meeting. We are looking to get sessions going soon. Bud, KB3FSU mentioned that we would want to coordinate with Tamaqua to stagger the sessions.

Goody, K3NG noted that we would like to hold training sessions at some point to help people prepare for their license. Bud, KB3FSU said that

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having others available at different times to answer questions that might come up as people study would be helpful.

We are expecting to visit some other VE sessions before conducting our own sessions so that we can get a feel for how the sessions flow and how the VE's go about the necessary tasks for the session.

RACES Activation

Goody, K3NG shared that coming out of our recent RACES activation, we have some work we are planning to do to improve the station at the EOC.

- A new HF antenna: looking to make a (formal and professional looking) proposal to the EMA
 - *Anyone interested may see the proposal before it's submitted*
- Use the station for demonstrations and casual use, not just for emergencies: this will not only show the station, but allow people to get familiar with equipment and its operation, as well as offer HF opportunities for those who are interested.
- Looking to upgrade the VHF capabilities
- Need to ensure which antennas are the clubs: it appears we have two tribanders on the tower.
 - 220 has limited utility: looking to add an additional 2M rig
 - Ensure that we have adequate antenna separation
- Attempt to schedule time to man the station once a week.
- We will need a tower climber
 - Todd, KB3IKX mentioned the possibility of using a local fire company to help, and use it as an opportunity for them to do some testing/training while getting us up the tower.

New Business

Brian, KB3KLJ indicated that we have a need to bring along more NCS operators. We have limited operators, and depending on the situation could find ourselves short-handed. Brian, KB3KLJ noted that it's not difficult and is pretty fun. He also mentioned that he has a desktop training session for Net Control to get people familiar with "running a net": how to call it up, take check ins, and close it.

Todd, KB3IKX, and Brian, KB3KLJ shared about the recent experience with a reported injured hiker on the Appalachian Trail. It ended up being a hoax, but did cause mobilization of resources from two counties.

For our November program, KB3BYT will give a presentation with directions for fox hunting (hidden transmitter) antenna building.

Nominations for Club Officers

Todd, KB3IKX made a motion to keep the current officers in their respective positions. The motion was seconded and carried.

A motion was made to close nominations; duly seconded and carried.

A motion was made to adjourn the meeting; seconded and carried.

The meeting adjourned at 20:19 local time.

Following the regular meeting, Bob, K3PH presented an interesting and educational video of the T33C DXpedition to Banaba.

Minutes respectfully submitted by Brian, KB3KLJ.



ARES/RACES Deal with Ernesto in Florida, Carolinas, Virginia (From the ARRL Letter)

At week's end, Tropical Depression Ernesto was poised to put a damper on the long Labor Day weekend for many East Coast residents. Heavy rain resulting in flash flooding, isolated tornadoes and gale-force winds were the major threats remaining from Ernesto. Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service (ARES/RACES) volunteers were on alert in the Carolinas and Virginia. After strafing Florida earlier in the week, Ernesto went out over open water but again made landfall at near-hurricane strength the evening of August 31 near Wilmington, North Carolina. ARRL Official Emergency Station Keith Deringer, WA4KD, in Richmond said September 1 the Virginia Department of Emergency Management (VDEM) had requested Amateur Radio volunteers to support a communication watch at the state emergency operations center.

Virginia Section Emergency Coordinator Henry Wyatt, K4YCR, told ARRL that Chesterfield County ARES — in the Richmond area — was standing by to support the American Red Cross in the event of heavy flooding in the Richmond area.

The governors of North Carolina, Virginia and other states in the Middle Atlantic region declared emergencies, and state emergency management teams on September 1 were preparing for possible evacuations and sheltering.

ARRL North Carolina SEC Bernie Nobles, WA4MOK, said his state seemed to have weathered Ernesto pretty well, although there was "lots of street and highway flooding" and some roadways had to be closed to traffic. Nobles told ARRL that the Eastern Branch EOC in Kinston (NC4EB) was maintaining a listening watch on local and regional repeaters at week's end. "We are getting some reports of evacuations of small communities, due to rising water," he said.

With Ernesto threatening to become a Category 1 hurricane, the Hurricane Watch Net (HWN) activated August 31. "After a 3-1/2 hour net, we had a great turnout of reporting stations," said HWN Assistant Manager Bobby Graves, KB5HAV. HWN members gather and report ground-level storm data via WX4NHC at the National Hurricane Center in Miami to assist forecasters in better understanding a storm's behavior.

In its final advisory on TD Ernesto, the National Hurricane Center was predicting rainfall totals of from 4 to 7 inches over the Mid-Atlantic states, including the central Appalachians from Virginia northward through September 3, and up to a foot in some areas.

"Life-threatening flash floods and mud slides are possible with these rains," the NHC warned.

Earlier in the week, ARES/RACES teams in Florida, the HWN and WX4NHC and the VoIP Hurricane Net went on alert as Ernesto, still a tropical storm, drew a bead on Southern Florida and later lashed the region with heavy rains and strong winds.

Amateur Radio Awareness Day is September 16

(From the ARRL Letter)

September is US Department of Homeland Security (DHS) National Preparedness Month, and Saturday, September 16, is Amateur Radio Awareness Day. For the third straight year, the ARRL and Amateur Radio Emergency Service (ARES) groups across the US will join a coalition of more than 200 national, regional, state and local organizations taking part in Preparedness Month activities. ARES is a partner with DHS through the Citizen Corps program. ARRL Media and Public Relations Manager Allen Pitts, W1AGP, says local ARES groups and clubs will be making presentations to civic organizations, at schools and at regional fairs to showcase Amateur Radio.

"More than 4000 ARRL 'Hello' campaign <http://www.hello-radio.org> brochures have gone out in the past few weeks alone to prepare for the month-long initiative," he said.

To highlight Amateur Radio Awareness Day, ARRL public information officers (PIOs) will promote the DHS's "30 Tips for Emergency Preparedness" http://www.dhs.gov/dhspublic/interapp/editorial/etrial_0711.xml to attract news media coverage. Some tips on promoting National Preparedness Month are on the ARRL public relations Web pages <http://www.arrl.org/pio/contact/2006/08/SEPTEMBER>.

ARRL Public Service Team Manager Steve Ewald, WV1X, notes that the underlying theme of National Preparedness Month is to encourage everyone to be aware of and prepare for emergencies all year long.

"Amateur Radio operators, led by ARRL Field Organization leaders across the country, are encouraged to consider this year's ARRL Simulated Emergency Test (SET) — as well as all preparations and post-SET evaluations — as a demonstration of your participation in National Preparedness Month," Ewald said. The target weekend for the 2006 SET is October 7-8 <http://www.arrl.org/FandES/field/setguide.html>.

A major ham radio presentation during September will take place on the West Coast. ARRL



Southwestern Division Director Dick Norton, N6AA, says Amateur Radio Expo 2006

<http://lafair.b2v.org/> will be held in conjunction with the Los Angeles County Fair. "They will staff the exhibit over four weekends," Norton said, noting that the fair annually attracts hundreds of thousands of visitors.

Amateur Radio Expo 2006 will get under way the weekend of September 9-10 and will feature a special event station plus interactive presentations to demonstrate the many facets of ham radio.

In a related vein, Pitts says he'd like to see a tighter relationship between ARES organizations and the League's corps of volunteer PIOs.

"Too often something happens, and everyone grabs a radio. No one grabs a camera or laptop and gets the word of ARES actions out to the media until long after the story becomes stale," he observed. "We have wonderful stories to tell, but we are too busy to tell them when they are fresh."

Pitts said he and the ARRL Public Relations Committee are working on ways to better integrate public relations and emergency response actions at the local level.

Pitts says that according to the Federal Emergency Management Agency (FEMA), families should plan on being totally on their own for up to four days. "That's like being back in ancient times: no cell phone, no Internet, no 911," he said.



"Backward Sunspots" May Herald Start of Solar Cycle 24

(From the ARRL Letter)

The recent appearance on the sun of two so-called "backward sunspots" may mean solar Cycle 23 is drawing to a close and Cycle 24 now is under way or soon will be. At least that's the thinking of some scientists.

"We've been waiting for this," said Solar Physicist David Hathaway of the Marshall Space Flight Center in Huntsville, Alabama, after the first backward spot showed up. "A backward sunspot is a sign that the next solar cycle is beginning."

The term "backward" refers to the sunspots' magnetic polarity. One such sunspot appeared briefly July 31, then disappeared, but its significance was that its magnetic polarity was just the opposite of current Cycle 23 spots.

Another more robust backward spot, Sunspot 905, appeared in late August — although it subsequently began to dissipate — and some sun gazers are saying Cycle 24 already has begun. ARRL propagation guru Tad Cook, K7RA, this week called it "the second sunspot of the new Solar Cycle 24."

"Eventually there will be more of the new reversed sunspots than old ones from Cycle 23, and that occurrence is one way to mark the beginning of the next sunspot cycle," he said. Radio conditions will not improve any time soon but over a period of several years of the course of the 11-year cycle, perhaps peaking around 2010.



ARRL Certification and Continuing Education Course Registration

(From the ARRL Letter)

Registration remains open through Sunday, September 24, for these ARRL Certification and Continuing Education (CCE) program online courses. Classes begin on Friday, October 6: Amateur Radio Emergency Communications Level 1 (EC-001), Radio Frequency Interference (EC-006), Antenna Design and Construction (EC-009), Analog Electronics (EC-012) and Digital Electronics (EC-013). These courses will also open for registration Friday, September 22, for classes beginning Friday, November 3. To learn more, visit the CCE Course Listing page <http://www.arrl.org/cce/courses.html> or contact the CCE Department cce@arrl.org.



Smithsonian's NN3SI to QRT During Museum Renovations

(From the ARRL Letter)

NN3SI, the Amateur Radio station exhibit at the Smithsonian Institute's National Museum of American History in Washington, DC, will QRT in late August while the museum undergoes renovations that will include the ham station. The museum is scheduled to reopen by the summer of 2008. Inaugurated in 1976 and supported by a volunteer staff, NN3SI occupies a corner in the "Information Age" exhibit on the first floor of the National Museum of American History, and it's been open daily for visiting radio amateurs to operate. — submitted by Murray Green, K3BEQ



ARRL Propagation Forecast Bulletin

Propagation Forecast Bulletin 36 ARLP036
From Tad Cook, K7RA
Seattle, WA September 1, 2006
To all radio amateurs

The second magnetically reversed sunspot appeared this week, and this time it remained longer. This is the second sunspot from the new solar cycle 24. Eventually there will be more of the new reversed sunspots than the old ones from cycle 23, and that would be one way to mark the beginning of the next sunspot cycle.

August has passed, so let's look at some monthly averages of sunspot numbers and solar flux.

The average daily sunspot numbers for the months August 2005 through August 2006 were 65.6, 39.2, 13, 32.2, 62.6, 26.7, 5.3, 21.3, 55.2, 39.6, 24.4, 22.6 and 22.8. Average daily solar flux for the same months was 92.4, 91.9, 76.6, 86.3, 90.8, 83.4, 76.5, 75.5, 88.9, 80.9, 76.5, 75.8 and 79.

We can use these averages to spot trends, but the sunspot numbers jump around quite a bit. To get a smoother view of the sunspot numbers, you can do a moving average, for instance, over 3 months. This would mean averaging any month's average daily sunspot numbers with the month before and the month after data. To the data above, we can add sunspot numbers for the months April through July 2005. That allows us to look at a 3-month moving average centered on May 2005 through July 2006. We cannot yet figure a 3-month moving average centered on August 2006, because we

don't know what the sunspot numbers for September will be.

So the 3-month moving average from May 2005 through July 2006 is 55.6, 64.6, 64.7, 57.8, 39.3, 28.1, 35.9, 40.5, 31.5, 17.8, 27.3, 38.7, 39.7, 28.9 and 23.3

That is pretty smooth, but we see numbers decline, then rise, and then decline again. An even smoother set of numbers would be 7-month moving averages from July 2005 through May 2006. Those numbers are 50.5, 49.1, 48.7, 44, 34.9, 28.6, 30.9, 34.7, 33.6, 27.9 and 27.3. Although the numbers rise for January and February 2006, the decline of the cycle is more obvious.

Despite the decline in the sunspot cycle, we will see improved HF propagation over long distances in September. The Autumnal Equinox later this month is a time when sunlight is equally distributed over the northern and southern hemispheres. Expect rising sunspot numbers and solar flux over the next few days, with mostly quiet geomagnetic conditions. The predicted planetary A index for September 1-7 is predicted to be 10, 10, 20, 12, 10, 5 and 5.

If you would like to make a comment or have a tip for our readers, email the author at, k7ra@arrl.net.

For more information concerning radio propagation, see the ARRL Technical Information Service at <http://www.arrl.org/tis/info/propagation.html>. For a detailed explanation of the numbers used in this bulletin, see <http://www.arrl.org/tis/info/k9la-prop.html>. An archive of past propagation bulletins is at <http://www.arrl.org/w1aw/prop/>.

Sunspot numbers for August 24 through 30 were 22, 23, 21, 26, 48, 30 and 19 with a mean of 27. 10.7 cm flux was 78.2, 77.2, 75.7, 78.6, 76.4, 73, and 74.2, with a mean of 76.2. Estimated planetary A indices were 5, 2, 3, 18, 11, 9 and 6 with a mean of 7.7. Estimated mid-latitude A indices were 4, 0, 2, 12, 9, 9 and 5, with a mean of 5.9.



ARRL DX Bulletin

DX Bulletin 37 ARLD037
From ARRL Headquarters
Newington CT August 31, 2006
To all radio amateurs

This week's bulletin was made possible with information provided by QRZ DX, the OPDX Bulletin, 425 DX News, The Daily DX, DXNL, Contest Corral from QST and the ARRL Contest Calender and WA7BNM web sites. Thanks to all.

MONACO, 3A. Patrice, F5RBB, will be active as 3A/F5RBB from September 2 to 10. Activity will be on 40, 20, 15 and 10 meter SSB. QSL via his home callsign.

CYPRUS, 5B. Possibly ZC4. Colin, G3VCQ, will be active as 5B/G3VCQ until September 6. Activity will be on all HF bands. Colin may also be active from the U.K. Sov. Base Areas on Cyprus (ZC4) from time to time if a call sign is allocated. QSL via G3VCQ.

CROATIA, 9A. Gery, HB9TQF, will be active as 9A8TQF until September 6. Activity will be from Grid Square JN83. Bands of activity were not provided, but he will be using CW, SSB and FSK.

ISLE OF MAN, MD0. Operators DF1LON and DL1ECG will be active as MD0LON and MD0ECG, respectively, from September 7 to 11. Activity will be on all HF bands, CW and SSB. QSL via their home callsigns.

TANZANIA, 5H. K1JD will begin an African Safari on September 9 and hopes to be QRV as 5H2JD in his spare time. Most likely this will be in the late afternoons his time, mostly around 14025, 10120 and 7025 kHz.

GUINEA, 3X. 3XD2Z was heard on 7030 kHz on CW listening up. Meanwhile, 3XM6JR was working RTTY first on 14083 kHz at 1000Z and then on 18103 kHz at 1130Z. QSL both via UA6JR.

DENMARK, OZ. NX1S will sign /OZ from Roemoe Island from September 9 to 16, primarily on 20 and 40 meters. QSL via DL4OK, bureau is ok.

BOTSWANA, A2. A22VB continues to show up on 3503 kHz between 0100 and 0330Z. QSL via UA4WHX.

KYRGYZSTAN, EX. EX15ID delighted prefix hunters on RTTY on 14085 kHz around 1630Z. QSL via EX8AB.

DJIBOUTI, J2. Jean-Claude, J28JA was QRV on 18080 kHz around 1300Z. QSL via F5JFU.

SVALBARD, JW. JW5E was in search of Japan on 14203 kHz at 1300Z. QSL via LA5NM.

LEBANON, OD. Look for Hani, OD5TE on 14290 kHz between 1600 and 1700Z. QSL via K3IRV.

NAMIBIA, V5. V55O was logged on 75 meter SSB around 2200Z. QSL via DJ4LK.

HONG KONG, VR2. Look for VR2VAC and VR2XMT on 20 meter SSB between 1130 and 1300Z. Also, watch for VR2AJ, VR2MX and VR2UW on 20 meter CW.



What a Difference a Day Makes!

By Paul Dunphy, VE1DX

A couple of the local QRPers were by the other day. We were sitting on the front porch waiting for Sunspot Louie to go down to the DX Club meeting with us. By the time we saw the QRPers, it was too late to hide. We decided to see what was up. This was a strange combination. One of the QRPers was hippity-hopping up the hill with joy in his stride and a smile in his face. The other was beating his way up the hill with a scowl on his face. "What's new in this world of DX?" we asked, hoping we'd get at least one happy answer. "Got a new one confirmed!" the hippity-hopping QRPer blurted out, "Antarctica! And on 75 meters, too. It's not often I get a brand new one on the low bands!" We had to agree this was a nice catch, especially on that band. No one could argue with that.

The other QRPer just sat there and glared at us. "Look at this!" he shouted after about a minute, shoving a QSL card in our hand. We looked at it carefully. We were starting to get the idea of what was happening here. Then the happy QRPer

handed us his QSL and said, "Look at mine, too," he said slowly, glancing over at his fellow QRPer, "don't you think they are both nice QSLs, with the color picture and all." We were in up to our knees now and there was no turning back, so we tried pleading innocence. "Yes, both are nice looking cards. It's not often two of you land the same station on the same band within a few days." We were looking for a quick way out of this! "Not so fast, Buster!" the scowling QRPer said in a rather loud voice, "Not so fast at all! Explain to me why my QSL doesn't count and his does? Why? What is wrong with the DXCC desk?" We looked the cards over carefully, buying time and hoping that Louie would show up and haul us off to the club meeting! "They both look the same to us," we replied carefully, "your calls are correct, and you even got the same signal reports, 5 and 5. They came from the same station and were confirmed by the same manager. Who says one will count and the other won't?"

This was not the question we should have asked! The scowling QRPer grabbed his card, stomped back and forth on the porch and finally blurted out, "The ARRL, that's who! Look at the date on my QSL! It's August 25th . . . his is August 21st! The League says that his counts and mine doesn't. I'll never understand how the DXCC desk works!" he shouted. "You belong to that outfit! Tell me why they made such a stupid decision! This isn't fair, not fair at all." He slumped down in his chair, exhausted. It was clear that this QRPer had been up all night, worrying and fuming over his lost QSO. What could we say? We looked over at the other QRPer and put a stop to his grin with a look that needed no words. These were trying times in this world of DX, and for the scowling QRPer even more so. The Amateur's Code dictated we ought not do anything to lessen the enjoyment of others. We were silent for a few moments, then decided these QRPer's were in need of Enlightenment. So we hauled the both of them up the hill to discuss the situation with the Old Timer.

Usually, the whole story has to be repeated, complete with arm waving and pacing. This time, however, the QRPer's just handed their QSLs to the Old Timer. No explanation of the problem was necessary. He looked at them for a second, then replied, "This is simply a case of the League implementing the August 23rd rule. It was in the original DXCC criteria back in 1945 and somehow got lost in recent printings. But it was there, always

has been and always will be. And it was put there for good reason, too, although those who are not Enlightened sometimes do not understand its importance. It states: 'Should any DX operation span the date of August 23rd, with that date falling on a Thursday, and the year being a leap year, the DX station must change QSL managers on that date.' Now, since the same manager is on both cards, one dated August 21st and the other August 25th, this clearly falls under the jurisdiction of the August 23rd rule. All the other criteria are met. Every true blue DXer knows this. If you are going to play the DXCC game, you have to understand the rules!" We nodded in agreement, for the Old Timer was right again. He always had the answers. Always.

Son of a Gun! We had never seen a look like the one on the face of the QRPer with the August 25th QSL! It was somewhere between fear, anger and hopelessness. "August 23rd 1996, a day that will live in infamy!" he screeched as he tore his QSL card to shreds and stormed down the hill, vowing never to DX again! The other QRPer glanced at us for a moment, then ran off after his friend, trying to convince him not to sell all his gear.

We looked at the Old Timer for a minute and then said, "Guess it was a good thing we stayed up the night of the 15th and worked that guy on 160." "Yeah," the Old Timer replied, "good thing. You never know when one of these lesser known rules will kick in." We got up and headed for the door, then turned and asked, "Wasn't that day that will live in infamy December 7th 1941?" The Old Timer thought for a moment and shrugged, "I thought so . . . but maybe the ARRL changed it to August 23rd 1996." "Likely so," we replied as we walked out the door and back down the hill. Never underestimate the power or wisdom of the DXCC desk. They are always right. Absolutely! It's one of the Eternal Enigmas of DXing. DX IS!

Carbon Amateur Radio Club – 2004-2005 Officers

President: Anthony "Goody" Good, K3NG, goody@grpis.org
Vice President: Rob Roomberg, KB3BYT, roomberg@ptd.net
Secretary: Brian Eckert, KB3KLJ, kb3klj@ptd.net
Treasurer: John Schreibermaier, W3MF, w3mf@ptd.net
W3HA Callsign Trustee: Lamar Derk, N3AT, n3at8z30@netscape.com
W3HA Repeater Trustee: Bob Wiseman, WB3W, rwiseman@ptd.net
Associate Repeater Trustee: Anthony "Goody" Good, K3NG, goody@grpis.org
Public Information Officer: Lisa Kelley, ldkelley@voicenet.com
Emcomm Coordinator: Brian Eckert, KB3KLJ, kb3klj@ptd.net

Directors

Eric Bott, N3TVV, etb75@hotmail.com, Bill Kelley, KA3UKL,
ldkelley@voicenet.com, Bob Wiseman, WB3W, rwiseman@ptd.net

Emcomm Coordinator

Brian Eckert, KB3KLJ, kb3klj@ptd.net

Services

W3HA Repeater: 147.255 MHz + PL 131.8

CARC Website: <http://carc.wb3w.net>, Webmaster: Bob Wiseman, WB3W,
rwiseman@ptd.net

CARC Email Reflector: <http://mailman.qth.net/mailman/listinfo/carbonarc>

Education Services: <http://www.learnmorsecode.com/cgi-bin/carcnitesurvey.pl>
Contact: Rob Roomberg, KB3BYT, roomberg@ptd.net

Emergency Power Equipment Trustees: Lisa and Bill Kelley, KA3UKL,
ldkelley@voicenet.com

CARC Membership Information

Regular Membership is \$15.00, which includes autopatch privileges.

All amateur radio operators are invited to join the CARC ARES / RACES net held 21:00 local time every Wednesday on the W3HA repeater at 147.255 MHz + offset, PL 131.8. Any amateur radio operator or anyone with an interest in ham radio is welcome to attend our monthly meetings which occur the third Thursday of each month at 7:30 PM at the Carbon County EMA Center on Route 93 in Nesquehoning.

Carbon Amateur Radio Club
c/o Bob Schreibermaier K3PH
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Kresgeville, PA 18333-0166